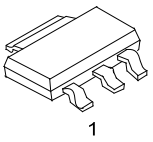
UP1853

PNP SILICON TRANSISTOR

HIGH CURRENT (HIGH PERFORMANCE) TRANSISTORS



SOT-223

■ FEATURES

* 5A Continuous Current , up to 10A peak current
* Very Low Saturation Voltages
* Excellent Gain Characteristics Specified up to 10A
* P_D = 3W

■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
UP1853G-AA3-R	SOT-223	B	C	E	Tape Reel

UP1853G-AA3-R

(1)Packing Type

(2)Package Type

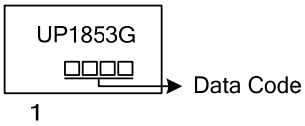
(3)Green Package

(1) R: Tape Reel

(2) AA3: SOT-223

(3) G: Halogen Free and Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-140	V
Collector-Emitter Voltage	V_{CEO}	-100	V
Emitter-Base Voltage	V_{EBO}	-6	V
Peak Pulse Current	I_{CM}	-10	A
Continuous Collector Current	I_C	-5	A
Power Dissipation (T_A=25°C)	P_D	3	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55~+150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

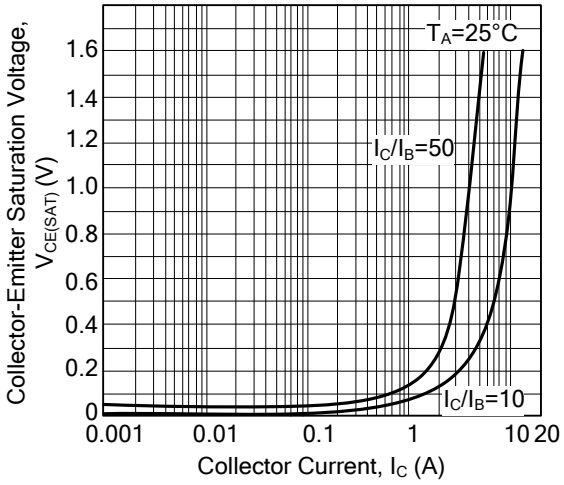
■ ELECTRICAL CHARACTERISTICS (T_A= 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-100μ A	-140	-170		V
Collector-Emitter Breakdown Voltage	BV_{CER}	I_C=-1μA, $R_B \leqq$ 1KΩ	-140	-170		V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-10mA (Note)	-100	-120		V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA	-6	-8		V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-100V			-200	nA
Collector Cut-Off Current	I_{CER}	V_{CB}=-100V, R≤1kΩ			-200	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-6V			-50	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$ (Note)	I_C=-100mA, I_B=-10mA		-20	-50	mV
		I_C=-1A, I_B=-100mA		-90	-115	
		I_C=-2A, I_B=-200mA		-160	-220	
		I_C=-4A, I_B=-400mA		-300	-420	
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=-4A, I_B=-400mA (Note)		-1010	-1170	mV
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	I_C=-4A, V_{CE}=-1V (Note)		-925	-1160	mV
DC Current Gain	h_{FE} (Note)	I_C=-10mA, V_{CE}=-1V	100	200		
		I_C=-1A, V_{CE}=-1V	100	200	300	
		I_C=-3A, V_{CE}=-1V	50	90		
		I_C=-4A, V_{CE}=-1V	30	50		
		I_C=-10A, V_{CE}=-1V		15		
Transition Frequency	f_T	I_C=-100mA, V_{CE}=-10V f=50MHz		125		MHz
Output Capacitance	C_{OB}	V_{CB}=-10V, f=1MHz		65		pF
Switching Times	t_{ON}	I_C=-2A, I_{B1}=-200mA, I_{B2}=200mA, V_{CC}=-10V		110		ns
	t_{OFF}			460		

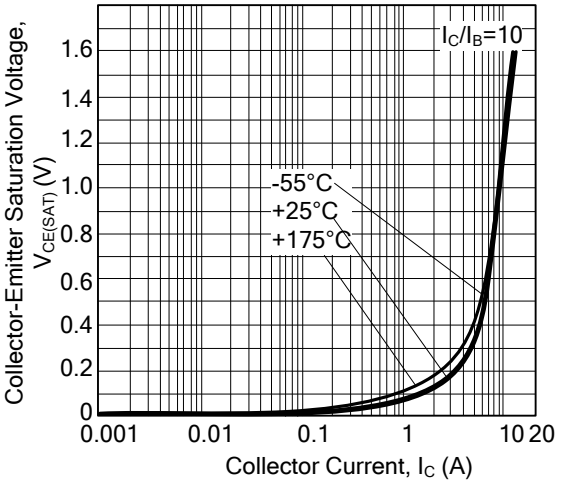
Note: Pulse width=300μs, Duty cycle≤2%

■ TYPICAL CHARACTERISTICS

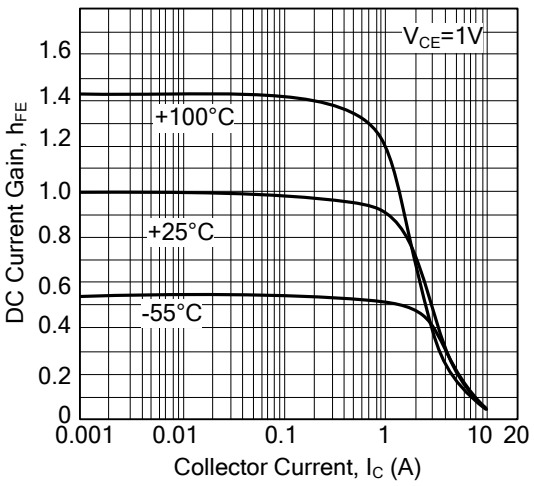
Collector-Emitter Saturation Voltage vs. Collector Current



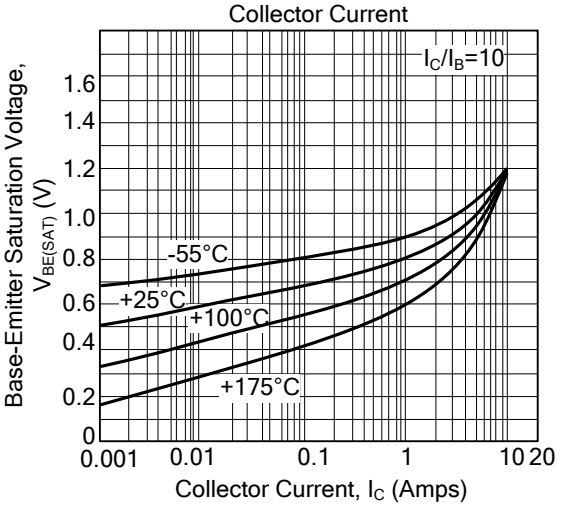
Collector-Emitter Saturation Voltage vs. Collector Current



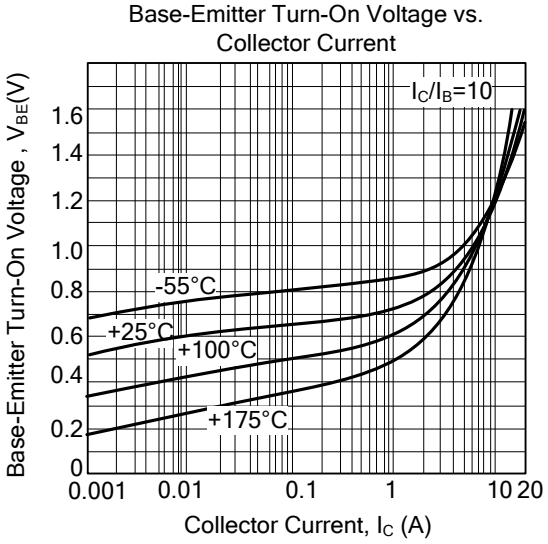
DC Current Gain vs. Collector Current



Base-Emitter Saturation Voltage vs. Collector Current



Base-Emitter Turn-On Voltage vs. Collector Current



Safe Operating Area
Single Pulse Test at Ta=25°C